

Appln. No.: 09/932,647
Amndt. dated August 15, 2006
Reply to Office Action of May 15, 2006

Amendments to the Drawings:

The attached sheets of drawings include changes to **FIG. 3**. These sheets, which include **FIG. 3**, replace the original sheets including **FIG. 3**. In **FIG. 3**, the use of reference numeral **232** is redundant. To clarify, reference **232**, as referring to the pivoted roller, (see published application paragraph **0027** as amended) has been deleted.

Attachment: Replacement Sheet for **FIG. 3**

Annotated Sheet Showing Changes for **FIG. 3**

Remarks/Arguments

As of the Office Action mailed May 15, 2006 claims 3 and 5-17 are pending in the application and stand rejected. Reexamination and reconsideration are respectfully requested in light of the amendments and remarks/arguments herein.

Amendments to the Claims

Claim 3 has been amended to recite “a predetermined signal comes from a host receiving page data scanned from scanned pages and said signal defines said ready time based in the time between said scanned pages.” Support for this amendment may be found in paragraph 0029 of the published application which recites “[t]he command signals that another print job (typically a single page) is to be expected, and specifies how long the printer should remain in the ready state.” In addition, support may be found in paragraphs 0045-0048 of the published application. No new matter has been added by this amendment.

Claim 5 has been amended to recite “[a] method of controlling a printer having a ready status and an on-but-not ready status and including a mirror having an operating speed comprising: indicating that a next print job will be received after a first print job and indicating a ready time within which said next print job is expected to be received.” Support for this amendment may be found in paragraph 0029 of the published application, which recites in part: “[t]he command signals that another print job (typically a single page) is to be expected, and specifies how long the printer should remain in the ready state.”

In addition claim 5 has been amended to recite “setting a ready timer to the lesser of: a) said ready time or b) a predetermined time interval that is a selected time less than the amount of time necessary for the mirror to coast from said operating speed to a full stop plus the amount of time necessary to accelerate from said full stop to said operating speed.” Support for this amendment may be found in paragraph 0048 of the published application which recites in part that “[b]y selecting “a ready” time of 8 seconds (slightly more than the nominal time needed of 7.7 seconds), the printer would be optimized for use in the copy center...Within the printer, the “ready” is limited from being set to more

than 15 seconds, a conservative approximation of a time which is significantly less than it takes for the motorized scanning polygon mirror to coast from operating speed to full stop plus the time that it takes to accelerate from stop to operating speed.”

Furthermore, claim 5 has been amended to recite “starting said ready timer; and maintaining said printer in a ready status until said ready timer expires or said next print job is received, wherein if said ready time expires changing said printer to said on-but-not-ready status allowing said mirror to coast to a stop.” Support for this amendment may be found in paragraph 0030 “[w]hen the printer 10 has such information indicating that it should expect another print page, the motorized scanning polygon mirror 116 is maintained at the printing speed after completion of the previous printed page. Thus the print engine remains in a “ready” mode until the data for the expected page is received.” In addition, support for this amendment may be found in paragraph 0052 and FIG. 5a which illustrates that when said ready time is not non-zero at 310 said mirror is turned off.

Accordingly, no new matter has been entered by this amendment.

Claim 8 has been amended to correct antecedent basis. No new matter has been added by this amendment.

Claim 9 has been amended to recite “an input capable of entering a ready time within which a next print job is expected and a predetermined control signal into said printer.” Support for this amendment may be found in paragraph 0029 of the published application, which recites in part: “[t]he command signals that another print job (typically a single page) is to be expected, and specifies how long the printer should remain in the ready state.”

In addition, claim 9 has been amended to recite “start said ready timer for the lesser of said ready time or a predetermined time interval, wherein said predetermined time interval is a selected time less than the amount of time necessary for the mirror to coast from said operating speed to a full stop plus the amount of time necessary to accelerate from said full stop to said operating speed, when said predetermined control signal is entered into said printer.” Support for this amendment may be found in paragraph 0048 of the published application which recites in part that “[b]y selecting “ a

ready” time of 8 seconds (slightly more than the nominal time needed of 7.7 seconds), the printer would be optimized for use in the copy center...Within the printer, the “ready” is limited from being set to more than 15 seconds, a conservative approximation of a time which is significantly less than it takes for the motorized scanning polygon mirror to coast from operating speed to full stop plus the time that it takes to accelerate from stop to operating speed.”

Furthermore, claim 9 has been amended to recite “and maintain said printer in a ready status until said ready timer expires or said next print job is received, wherein if said ready timer expires said control apparatus is configured to change said printer to said on-but-not-ready status allowing said mirror to coast to a stop.” Support for this amendment may be found in paragraph 0030 “[w]hen the printer 10 has such information indicating that it should expect another print page, the motorized scanning polygon mirror 116 is maintained at the printing speed after completion of the previous printed page. Thus the print engine remains in a “ready” mode until the data for the expected page is received.” In addition, support for this amendment may be found in paragraph 0052 and FIG. 5a which illustrates that when said ready time is not non-zero at 310 said mirror is turned off.

Accordingly, no new matter has been entered by this amendment.

Claim 11 has been amended to recite “said predetermined control signal defines said ready time.” Support for this amendment may be found in paragraph 0029 of the published application, which recites in part: “[t]he command signals that another print job (typically a single page) is to be expected, and specifies how long the printer should remain the in the ready state.” No new matter has been added by this amendment.

Claim 13 has been amended to recite “start said ready timer for the lesser of: a ready time within which a next print job is expected or a predetermined time interval, wherein said predetermined time interval is a selected time less than the amount of time necessary for the mirror to coast from said operating speed to a full stop plus the amount of time necessary to accelerate from said full stop to said operating speed, and maintain said printer in a ready status until said ready timer expires or said next print job is received, wherein if said ready time expires said control apparatus is configured to

change said printer to said on-but-not-ready status allowing said mirror to coast to a stop.” Support for these amendments may be found in paragraph 0029 of the published application, which recites in part: “[t]he command signals that another print job (typically a single page) is to be expected, and specifies how long the printer should remain the in the ready state.” In addition support may be found in paragraph 0048 of the published application which recites in part that “[b]y selecting “ a ready” time of 8 seconds (slightly more than the nominal time needed of 7.7 seconds), the printer would be optimized for use in the copy center...Within the printer, the “ready” is limited from being set to more than 15 seconds, a conservative approximation of a time which is significantly less than it takes for the motorized scanning polygon mirror to coast from operating speed to full stop plus the time that it takes to accelerate from stop to operating speed.” Furthermore, support for this amendment may be found in paragraph 0030 “[w]hen the printer 10 has such information indicating that it should expect another print page, the motorized scanning polygon mirror 116 is maintained at the printing speed after completion of the previous printed page. Thus the print engine remains in a “ready” mode until the data for the expected page is received.” In addition, support for this amendment may be found in paragraph 0052 and FIG. 5a which illustrates that when said ready time is not non-zero at 310 said mirror is turned off. No new matter has been added by this amendment.

Claim 15 has been amended to recite “said predetermined control signal defines said ready time.” Support for this amendment may be found in paragraph 0029 of the published application, which recites in part: “[t]he command signals that another print job (typically a single page) is to be expected, and specifies how long the printer should remain the in the ready state.” No new matter has been added by this amendment.

Claims 18 through 20 have been added which recite that the “ready time is the amount of time for print data for said next print job to be received and a time for a sheet to be imaged to be moved to be imaged.” Support for these claims may be found in paragraph 0040 of the published application which recites in part “[i]n accordance with this invention, the motor is maintained at steady-state until the next page is received (t_2) plus a time for the sheet to be imaged to be moved to be imaged.” No new matter has been entered by this amendment.

Amendments to the Drawings

In amended **FIG. 3**, the reference numeral referring to the pivoted roller **232** has been deleted. As no new matter has been entered to the drawings, entry is respectfully requested.

Rejections Under 35 USC §112

Claims 3 and 5-17 are rejected under 35 USC 112, second paragraph as being indefinite. As an initial matter, the Applicants have amended claims 5, 9 and 13 and believe that the language now presented particularly points out and distinctly claims the subject matter which the Applicants regard as the invention.

Rejections Under 35 USC §103

As an initial matter, the Examiner stated in the Advisory Action dated January 24, 2006 that “determining the time (time A) required for the mirror to coast from the operating speed to full stop plus the time that it takes to accelerate from full stop to operating speed and setting a ready time within time A” is not taught by the combination of Smith and Nagasaka.” Accordingly, the claims have been adjusted to reflect the Examiner’s statement.

More specifically, the Applicants have amended claim 5 to recite “indicating that a next print job will be received after a first print job and indicating a ready time within which said next print job is expected to be received and setting a ready timer to the lesser of: said ready time or a predetermined time interval...” The predetermined time interval is recited in the claim to be a selected time less than the amount of time necessary for the mirror to coast from said operating speed to a full stop plus the amount of time necessary to accelerate from said full stop to said operating speed.

Similar amendments were made to independent claims 9 and 13.

Accordingly, the present invention now recites that a ready time is set that is within the time required for the mirror to coast from the operating speed to full stop plus the amount of time necessary to accelerate from said full stop to said operating speed. As

this feature was indicated as not being in the art of record it is believed that the outstanding rejections have been rendered moot.

Claims 3, 5 and 6 are rejected as being unpatenable over Smith et al (US 6,359,642) in view of Nagasaka (5,241,349). As can be best understood, the Examiner asserts that it would be inherent that, in Smith's printer, there exist a time X for the mirror to slow from said operating speed to a full stop and then return to said operating speed." The Examiner continues stating that "the predetermined time must be less than time X because the mirror has not come to a full stop yet during the predetermined time." The Applicants respectfully assert that there is no reasoning offered to support this statement. In particular, it is unknown to the Applicants where Smith teaches a predetermined time interval or a ready time as claimed.

Smith discloses that "a typical laser printer that employs a standard electrophotography drum (drum), a laser mirror, a laser mirror drive unit (drive unit) and a heating element for transferring heat to toner. While in print mode, power is applied to the drive unit so as to cause the laser mirror to rotate at a pre-determined velocity." Col. 1, lines 25-30. In addition, Smith discloses that "[i]n order to reduce power consumption, laser printers are designed to move into an idle mode (also commonly referred to as a "power save" state) when inactive over a certain period of time. While the laser printer is operating in the idle mode, power is reduced or removed from the drive unit and the heating elements. Therefore, the laser mirror will typically cease to rotate..." Col. 1, lines 35-42 (emphasis added.) However, the "certain period of time" is completely uncharacterized by Smith. Smith does not disclose that this "certain period of time" may be anything more than a set time, repeated for every print job, regardless of any other factor. In fact, Smith doesn't even go so far as to even characterize the "certain period of time period" as a set time but only states that "[w]hen in print mode, Control Unit 11 operates in a standard manner to move Printer 10 into an idle mode if Printer 10 is inactive over a certain period of time." Col. 3, lines 23-34. In addition, Smith also states that "[i]n the embodiment just described Control Unit 11 can be further adapted to cause Printer 10 to remain in a print mode for an additional length of time while inactive upon receiving a PRE-START signal. Thus, this can prevent Printer 10 from moving into an

idle mode if a print job is about to be received.” Col. 6, lines 2-7. Once again, other than the length of time being an “additional length” there is no disclosure of a ready time or a predetermined time interval and setting a ready timer to the lesser of the ready time or a predetermined time interval.

Claims 9-11, 13-15 stand rejected under 35 USC §103 as being unpatentable over Smith et al in view of Hibino US 5,636,332. As amended claim 9 recites “an input capable of entering a ready time within which a next print job is expected...wherein said automatic control apparatus is configured to: start said ready timer for the lesser of said ready time or a predetermined time interval...” In addition, claim 13 now recites “said automatic control apparatus is configured to: start said ready timer for the lesser of: a ready time within which a next print job is expected or a predetermined time interval...” Smith and Hibino completely fail to teach or suggest an automatic control apparatus that is configured to start a ready timer for the lesser of a ready time or a predetermined time interval as recited in the claims. Once again, as discussed above, Smith merely discloses a “certain period of time” or “an additional length of time” there is not basis provided for a ready time or a predetermined time interval and setting a ready timer to the lesser of a ready time or a predetermined time interval.

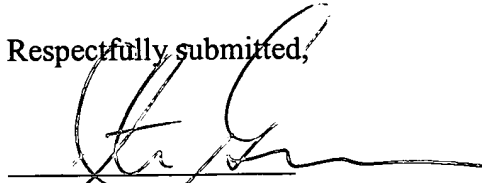
In light of the above, Applicants respectfully submit that claims 5, 9 and 13 and their dependent claims are not taught or suggested under 35 USC §102/103 by the cited references. In consideration of the foregoing Applicants respectfully request that the rejections of the claims are withdrawn upon reconsideration and that the claims are allowed.

Having overcome all of the outstanding rejections, it is respectfully submitted that the application is now in condition for allowance. Early and favorable action is respectfully solicited.

In the event that there are any fee deficiencies, or additional fees are payable, please charge, or credit any overpayment to, our Deposit Account No. 50-2121.

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Respectfully submitted,

A handwritten signature in dark ink, appearing to be 'S. Grossman', written over a horizontal line.

Steven J. Grossman

Attorney for Applicant(s)

Reg. No. 35,001

Grossman, Tucker, Perreault & Pfleger, PLLC

55 South Commercial Street

Manchester, New Hampshire 03101

Tele: 603.668.6560



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FIG. 3

